CLAIMS:

What is claimed is:

1. A vaccine comprising a molecular homolog having sufficient structural similarity to a tumor specific protein endogenously expressed in a tumor such that the molecular homolog is capable of inducing an immune response to the tumor specific protein in a subject bearing the tumor.

2. The vaccine of claim 1 wherein the molecular homolog is a xenogeneic homolog of the tumor specific protein.

3. The vaccine of claim 1 wherein the molecular homolog is generated using genetic engineering.

4. The vaccine of claim 1 wherein the molecular homolog is a DNA molecule.

5. The vaccine of claim 1 wherein the molecular homolog is a protein molecule.

6. The vaccine of claim 1 wherein the molecular homolog is attached to a virus as a carrier.

7. The vaccine of claim 6 wherein the virus is either the Adenovirus or the Lentivirus.

8. The vaccine of claim 1 wherein the tumor specific protein is a tumor receptor.

9. The vaccine of claim 8 wherein the tumor receptor is an epidermal growth factor receptor (EGFR).

10. The vaccine of claim 9 wherein the structural similarity between the molecular homolog and EGFR ranges from 30-95%.

11. The vaccine of claim 1 wherein the molecular homolog is modified by attaching thereto a nanoparticle in order to enhance the target specifity of the vaccine.

12. The vaccine of claim 11 whererin the nanoparticle is an Adenovirus.

13. The vaccine of claim 12 wherein the Adenovirus is modified by the peptide RGD.

14. The vaccine of claim 1 wherein the subject is an animal.

15. The vaccine of claim 1 wherein the subject is a human.

16. The vaccine of claim 9 wherein the tumor is selected from the group consisting of mammary cancer, lung cancer, melanoma, hepatocarcinoma, fibrosarcoma, ovarian cancer, colorectal cancer, prostate cancer, stomach cancer, bladder cancer, head and neck squamocarcinoma, and glioma.

17. A vaccine suitable for administering to a human or animal to inhibit growth or formation of a tumor comprsing a molecular homolog having sufficient structural similarity to a tumor specific protein endogenously expressed in the tumor such that the molecular homolog is capable of inducing an immune response to the tumor specific protein in the subject.

18. The vaccine of claim 17, further comprising an pharmaceutically acceptable carrier.

19. The vaccine of claim 1, further comprising a nanoparticle which provides targeted modification of the vaccine.

20. The vaccine of claim 19 wherein the nanoparticle has a diameter under 500nm.

21. The vaccine of claim 20 wherein the nanoparticle has a diameter between 200nm-500nm.

22. The vaccine of claim 20 wherein the nanoparticle has a diameter between 100-200nm.

23. The vaccine of claim 20 wherein the nanoparticle has a diameter between 50-100nm.

24. The vaccine of claim 19 wherein the nanoparticle is selected from group consisting of liposome, PLGA, and Mannan-mofied Adenovirus.

25. A cell capable of expressing the vaccine of claim 1.

26. A commensal bacteria cell transformed stably with a DNA molecule coding a molecular homolog having sufficient structural similarity to a tumor specific protein endogenously expressed in a tumor such that the molecular homolog is capable of inducing an immune response to the tumor specific protein in a subject bearing the tumor.

27. A live vaccine comprising the commensal bacteria cell of claim 26

28. A cellular vaccine comprising the cell of claim 25, the cellular vaccine is capable of inducing an immune response against a tumor specific protein endogenously expressed in a tumor, when the cellular vaccine is administering to a subject bearing the tumor.

29. A method of making a vaccine for inducing an immune response against a tumor specific protein endogenously expressed in a tumor, comprising selecting a molecular homolog having sufficient structural similarity to the tumor specific protein so as to enable the molecular homolog to induce the immune response

against the tumor specific protein in the subject bearing the tumor.

30. The method of claim 29 wherein the molecular homolog is a xenogeneic homolog of the tumor specific protein.

31. The method of claim 29 wherein the molecular homolog is generated using genetic engineering.

32. The method of claim 29 wherein the molecular homolog is a DNA molecule.

33. The method of claim 29 wherein the molecular homolog is a protein molecule.

34. The method of claim 29 wherein the molecular homolog is attached to a virus as a carrier.

35. The method of claim 34 wherein the virus is either the Adenovirus or the Lentivirus.

36. The method of claim 29 wherein the tumor specific protein is a tumor receptor.

37. The method of claim 36 wherein the tumor receptor is an epidermal growth factor receptor (EGFR).

38. The method of claim 37 wherein the structural similarity between the molecular homolog and EGFR ranges from 30-95%.

39. The method of claim 29 wherein the molecular homolog is modified by attaching thereto a nanoparticle in order to enhance the target specifity of the vaccine.

40. The method of claim 39 whererin the nanoparticle is an Adenovirus.

41. The method of claim 40 wherein the Adenovirus is modified by the peptide RGD.

42. The method of claim 1 wherein the subject is an animal.

43. The method of claim 1 wherein the subject is a human.

44. A method of inhibiting in vitro growth of tumor cells expressing a tumor specific protein endogenously, comprising incubating with the tumor cells a molecular homolog having sufficient structural similarity to the tumor specific protein such that the molecular homolog is capable of inbiting the growth of the tumor cells, and measuring that growth of the tumor cells is inhibited.

45. A method of inhibiting formation or growth of a tumor of a subject, the tumor having a tumor specific protein endogenously expressed therein, comprising the step of administering to the subject a molecular homolog having sufficient structural similarity to the tumor specific protein so as to enable the molecular homolog to induce an immune response to the tumor specific protein.

46. The method of claim 45 wherein the molecular homolog is a xenogeneic homolog of the tumor specific protein.

47. The method of claim 45 wherein the molecular homolog is generated using genetic engineering.

48. The method of claim 45 wherein the molecular homolog is a DNA molecule.

49. The method of claim 45 wherein the molecular homolog is a protein molecule.

50. The method of claim 45 wherein the molecular homolog is attached to a virus as a carrier.

51. The method of claim 50 wherein the virus is either the Adenovirus or the Lentivirus.

52. The method of claim 45 wherein the tumor specific protein is a tumor receptor.

53. The method of claim 52 wherein the tumor receptor is an epidermal growth factor receptor (EGFR).

54. The method of claim 53 wherein the structural similarity between the molecular homolog and EGFR ranges from 30-95%.

55. The method of claim 45 wherein the molecular homolog is modified by attaching thereto a nanoparticle in order to enhance the target specifity of the vaccine.

56. The method of claim 55 whererin the nanoparticle is an Adenovirus.

57. The method of claim 56 wherein the Adenovirus is modified by the peptide RGD.

58. The method of claim 45 wherein the subject is an animal.

59. The method of claim 45 wherein the subject is a human.

60. A method of inducing regression of an existing tumor of a subject, the tumor having a tumor specific protein endogenously expressed therein, comprising the step of administering to the subject a molecular homolog having sufficient structural similarity to the tumor specific protein so as to enable the molecular homolog to induce an immune response to the tumor specific protein

61. A method of inducing cytotoxic T-lymphocyte activity specifically directed against a tumor cell expressing a tumor specific protein in a subject which is endogenously expressed in the tumor comprising administering to said subject a molecular homolog having sufficient structural similarity to the tumor specific protein so as to enable the molecular homolog to induce cytotoxic T-lymphocyte activity against the tumor specific protein in the subject bearing the tumor.

62. A method for inducing immunity against a tumor specific protein endogenously expressed in a tumor, comprising administering to a subject bearing the tumor a molecular homolog having sufficient structural similarity to the tumor specific protein so as to enable the molecular homolog to induce the immunity against the

tumor specific protein.

63. The method of claim 62 wherein the molecular homolog is a xenogeneic homolog of the tumor specific protein.

64. The method of claim 62 wherein the molecular homolog is generated using genetic engineering.

65. The method of claim 62 wherein the molecular homolog is a DNA molecule.

66. The method of claim 62 wherein the molecular homolog is a protein molecule.

67. The method of claim 62 wherein the molecular homolog is attached to a virus as a carrier.

68. The method of claim 67 wherein the virus is either the Adenovirus or the Lentivirus.

69. The method of claim 62 wherein the tumor specific protein is a tumor receptor.

70. The method of claim 69 wherein the tumor receptor is an epidermal growth factor receptor (EGFR).

71. The method of claim 70 wherein the structural similarity between the molecular homolog and EGFR ranges from 30-95%.

72. The method of claim 62 wherein the molecular homolog is modified by attaching thereto a nanoparticle in order to enhance the target specifity of the vaccine.

73. The method of claim 72 whererin the nanoparticle is an Adenovirus.

74. The method of claim 73 wherein the Adenovirus is modified by the peptide RGD.

75. The method of claim 62 wherein the subject is an animal.

76. The method of claim 62 wherein the subject is a human.

77. A method of immunizing an animal against a tumor having a tumor specific protein endogenously expressed therein, comprising the step of administering to the animal a molecular homolog having sufficient structural similarity to the tumor specific protein so as to enable the molecular homolog to induce an immune response to the tumor specific protein.

78. The method of claim 77 wherein the animal is a mammal.

79. The method of claim 77 wherein the animal is an avian organism.

80. The method of claim 79 wherein the avian organism is a chicken.

81. The method of claim 77 wherein the animal is a mouse.

82. The method of claim 78 wherein the mammal is a human.

83. The method of claim 77 wherein the administering is subcutaneous.

84. The method of claim 77 wherein the administering is intradermal.

85. The method of claim 77 wherein the administering is intravenous.

86. The method of claim 77 wherein the administering is intraperitoneal.

87. The vaccine of claim 77 wherein the molecular homolog is a xenogeneic homolog of the tumor specific protein.

88. The vaccine of claim 77 wherein the molecular homolog is generated using genetic engineering.

89. The vaccine of claim 77 wherein the molecular homolog is a DNA molecule.

90. The vaccine of claim 77 wherein the molecular homolog is a protein molecule.

91. The vaccine of claim 77 wherein the molecular homolog is attached to a virus as a carrier.

92. The vaccine of claim 91 wherein the virus is either the Adenovirus or the Lentivirus.

93. The vaccine of claim 77 wherein the tumor specific protein is a tumor receptor.

94. The vaccine of claim 93 wherein the tumor receptor is an epidermal growth factor receptor (EGFR).

95. The vaccine of claim 94 wherein the structural similarity between the molecular homolog and EGFR ranges from 30-95%.

96. The vaccine of claim 77 wherein the molecular homolog is modified by attaching thereto a nanoparticle in order to enhance the target specifity of the vaccine.

97. The vaccine of claim 96 whererin the nanoparticle is an Adenovirus.

98. The vaccine of claim 97 wherein the Adenovirus is modified by the peptide RGD.